

## CLAIMS:

1. An audio system comprising:  
a post-processor arranged to alter successive fragments of a decoded audio signal to provide successive fragments of post-processed audio signal;  
a distortion detector for determining a degree to which quantization noise introduced in  
5 encoding said successive fragments of audio signal becomes audible due to said post-processing; and  
a regulator arranged to control said post-processor according to said degree.
2. An audio system as claimed in claim 1 further comprising:  
10 a masking threshold generator arranged to provide an estimate of a masking threshold for said successive fragments of post-processed audio signal;  
a noise level detector arranged to provide an estimate of a noise level for said successive fragments of said post-processed audio signal;  
and wherein said distortion detector determines said degree according to the degree to which  
15 said noise level exceeds said masking threshold for successive fragments of said post-processed audio signal.
3. An audio system as claimed in claim 2 further comprising a decoder arranged  
to read an audio stream and to produce said successive fragments of audio signal.  
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4. An audio system as claimed in claim 3 wherein said decoder produces stereo-encoded successive pairs of fragments of audio signal and said post-processor applies stereo-widening to said successive pairs of fragments of audio signal.
- 25 5. An audio system as claimed in claim 2 wherein said masking threshold generator comprises a psycho-acoustic modeling component arranged to transform said successive fragments of post-processed audio signal into the frequency domain; and to derive said masking threshold therefrom.

6. An audio system as claimed in claim 2 wherein said masking threshold generator comprises a psycho-acoustic modeling component arranged to read said audio stream and to produce successive fragments of audio signal; to apply similar post-processing to said successive fragments of audio signal as said post-processor; to transform said  
5 successive post-processed fragments of audio signal into the frequency domain; and to derive said masking threshold from said post-processed signal.
7. An audio system as claimed in claim 2 further comprising an inverse decoder arranged to read said successive fragments of a decoded audio signal and to provide  
10 therefrom indications of quantization levels employed in the encoding of an audio stream from which said audio signal is decoded.
8. An audio system as claimed in claim 3 in which said noise level detector is arranged to derive from said audio stream quantization levels employed in the encoding of an  
15 audio stream.
9. An audio system as claimed in claim 7 or 8 in which said noise level detector is arranged to derive from said quantization levels a distribution of noise level in the frequency domain for said successive fragments of a decoded audio signal, and to apply  
20 similar post-processing to said successive distributions of noise level as said post-processor to provide successive estimates of noise level for said successive fragments of said post-processed audio signal.
10. A method of processing an audio stream comprising the steps of:  
25 post-processing successive fragments of a decoded audio signal to provide successive fragments of post-processed audio signal;  
detecting a degree to which quantization noise introduced in encoding said successive fragments of audio signal becomes audible due to said post-processing; and  
regulating said post-processing step according to said degree.